

DOCUMENT RESUME

ED 172 163

CS 004 867

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 TITLE A Comparison of Two Methods of In-Service Programming for Helping Content Area Teachers Select and Use Student Reading Materials.
 PUB DATE Mar 78
 NOTE 24p.; Report based on Ed.D. Dissertation, University of Pennsylvania
 EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS *Content Reading; *Inservice Teacher Education; Instructional Staff; Reading Instruction; *Reading Material Selection; Secondary Education; *Staff Improvement; *Teacher Attitudes

ABSTRACT

A study was undertaken to solve, through staff development, the problem of the selection and use of appropriate reading materials by content area teachers and to determine the amount and type of cooperation that could be expected between content area teachers and reading personnel. The field-based, action-research study compared two approaches to inservice programming: an inservice workshop and independent materials, and the same workshop and materials plus individualized follow-up assistance. Both attitude and behavior change were measured. Results showed that, while the attitudes of all teachers involved in the study improved, there was little behavior change in either group. Those who received individualized assistance, however, did perceive themselves as more competent and were more eager for continued cooperation with reading personnel than did the control group. (Author/DF)

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A Comparison of Two Methods of In-Service Programming
for Helping Content Area Teachers Select
and Use Student Reading Materials.

Annette Tucker Rabin

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SUMMARY

The purpose of this study was to attempt, through staff development, to solve the problem of the selection and use of appropriate reading materials by content area teachers. The researcher was also searching for clues to how much and what type of cooperation could be expected between content area teachers and reading personnel. The study was field-based and of the action research type.

Two approaches to in-service programming were compared: an in-service workshop and independent materials and the same workshop and materials plus individualized follow-up assistance. Both attitude and behavior change were sought and measured.

Results showed that, while the attitudes of all teachers involved in the study improved, there was little behavior change in either group. Those who received individualized assistance, however, did feel more competent and were more eager for continued cooperation with reading personnel than the controls.

CONTENTS •

	PAGE
ABSTRACT	
Statement of the Problem.....	1
Purpose of the Study.....	3
Definitions of Key Terms.....	4
Theoretical Framework.....	5
Questions.....	6
Main Findings.....	7
Conclusions.....	10
Implications.....	11
REFERENCE LIST.....	15
APPENDIX.....	18

Statement of the Problem

Most formal instruction in reading stops at the end of the elementary school. This is the time when the student actually needs additional support in this area, if he or she is to succeed (Harris, 1970; Morrison and Austin, 1977). The curriculum, thenceforth, becomes more and more textbook oriented. Most content area teachers are not sufficiently knowledgeable to adjust written materials to the great span of reading levels found in the average heterogeneous classroom (Bryant, 1971; Early, 1973; Hess, Smith and Nettleton, 1973; Olsen, 1968). Furthermore, certification on the secondary level is still possible in most states without course work in reading instruction (Bader, 1975; Estes and Piercey, 1973; Fry and Putnam, 1976; Morrison and Austin, 1977).

Existing reading departments on the upper levels often function with little or no contact with, or cooperation from, content area personnel (Berman and McLaughlin, 1975; Schleich, 1971; Smith and Otto, 1969; Vaughn, J. L., 1976). They become, therefore, depositories for students who have not been adequately provided for in subject area classes. Remedial reading classes, often, become places where these "losers" vent their accumulated frustrations. Bright students, also, become problems when their materials are not sufficiently challenging (Austin, 1961).

The range of reading levels in the average heterogeneous secondary level classroom is usually four or five years or more above and below grade level (Diederich, 1973; Harris, 1970). Textbook

publishers cannot always be relied upon to provide materials which are appropriate for the grade levels for which they are intended (Cramer and Dorsey, 1969; Johnson and Vardian, 1973; Simmons and Cox, 1972). Even should the readability level of a textbook be consistent with the grade level of the particular content area class, there would be students who could not cope with these materials (Bryant, 1971; Cline, 1973; Diederich, 1973; Harris, 1970).

Clearly, there exists a need for effective staff development in the techniques available for dealing with the written materials used in the content area classroom. How is the reading department to communicate with content area teachers in such a way as to present no threat to their classroom autonomy? How are content area teachers to be convinced that they are capable of using those techniques and procedures which will help them to adjust their written materials to all of their students?

Extended in-service programming of a formal type is not always feasible. It places an additional burden on the already overburdened teacher and, sometimes, results in making those who participate feel even less adequate to the task and more dependent on specialized assistance (Schleich, 1971; Smith and Otto, 1969). Funding for released time is, also, often limited.

It becomes a necessity, therefore, to determine which methods of staff development are most workable and most effective under the constraints of the typical school environment.

Purpose of the Study

The purpose of this dissertation was to report on an attempt, through staff development, to solve an omnipresent problem in education: the selection and use of appropriate written, or reading, materials by content area teachers.

The study was field-based and of the action research type to reflect the changing variables in any classroom situation. In this way the researcher hoped to have the freedom to deal with problems or questions arising in the course of her interaction with the individual content area personnel involved in the study. Controlled, or basic, research presupposes that one can decide upon or predict what the variables will be in an educational environment (Cronbach, 1975). In an in-service, or staff development, project such as the researcher undertook for this study, such prediction of variables was not feasible.

The objectives of this study were three-fold. First, the researcher attempted to identify and delineate the specific problem and its implications as it affected the content area teacher, the students, their parents, students in other district schools and administrative personnel. Secondly, she reported on a staff development program, implemented as a solution to the problem. Last, she evaluated the solution from the point of view of its application to other subsequent attempts at in-service programming and, specifically, in this case, for clues to how much and what type of cooperation could be expected between content area teachers and reading personnel in providing suitable reading materials for students.

Definitions of Key Terms

The terms used in this study include:

1. Staff development or in-service programming - as defined for the Association for Supervision and Curriculum Development (ASCD) by Hendee (1976); "the sum of all planned activities designed for the purpose of improving, expanding, and renewing the skills, knowledge, and abilities of participants"(p.163).
2. Content area - an area other than reading in which a specific subject is taught; e.g. English, social studies, science, etc.
3. Reading level - the level of reading achievement at which a student is performing, usually expressed as a grade level. This may be further divided into three stages:
 - a. Independent reading level - the highest level at which a student can read easily and fluently without assistance. This represents 90 - 100% comprehension.
 - b. Instructional level - the highest level at which a student ^{read} can satisfactorily provided that he or she receives preparation and supervision from the teacher. This represents 75 - 90% comprehension.
 - c. Frustration level - the level at which reading skills break down and the student's comprehension and recall are faulty. This represents less than 75% comprehension.
4. Readability - The degree, or level, of difficulty of a piece of written material for a particular group of readers, based on some type of evaluative instrument. For example, a Fry readability score of seven on a piece of written material

implies that a student with an independent reading level of seven will be able to comprehend 50 - 75% of the content of that material. Most evaluative instruments are based on some variation of sentence length and either word length or difficulty.

Theoretical Framework

There is general agreement among educators on two things:

1.) the need exists for in-service training of secondary school teachers in the use of content area reading techniques (Early, 1973; Herber, 1970; Schleich, 1971; Smith and Otto, 1969) and 2.) these changes in attitude and behavior would be most effectively learned in the home school, with the assistance of fellow staff members (Berman and McLaughlin, 1975; Joyce, 1975; Otto and Erickson, 1973).

If these assumptions are valid, it behooves the researcher to implement the possible variations of a home school based approach to in-service programming in reading for content area teachers and to evaluate and compare the results in terms of the modifications of teacher behavior and attitude.

In evaluating curriculum, it is extremely important to evaluate the underlying processes involved, as well as the content itself, when poor performance occurs. Taba (1962) suggested that the reading ability of the students involved should be checked across subject lines. She recommended, at the very least, standardized testing for reading comprehension and speed. This procedure, however, is worthless if classroom teachers do not have some knowledge of the use and interpretation of standardized reading tests.

Often, a comparison between the reading levels of the students

and the readability levels of the written materials used in a content area class shows the latter to be too difficult, either in form or concept, or both. Should this be the case, it is vital that the content area teacher know, or be taught, the techniques necessary for revising, simplifying, and/or supporting these materials. In the public schools of our country, it is often the individual teacher who makes the final decisions regarding the choice and preparation of learning materials. It seems logical, therefore, to start here with any staff development aimed at assuring the use of appropriate reading materials for all students.

Mainstreaming is becoming the rule rather than the exception. At the other end of the spectrum, the "gifted" child is being identified with all of his or her frustration at not being permitted to soar ahead. In the middle stands the embattled classroom teacher upon whose shoulders, as always, rests the responsibility for implementing and/or refining all of the idealistic programs envisioned by others. What better function for in-service programming than to assist him or her in achieving the often very ambitious goals which have been set for him or her by public education.

Questions

The evaluation of the solution focuses on two related questions:

1. In helping content area teachers to produce and/or select more appropriate reading materials for use in their classrooms and/or reinforce them adequately, which type of staff development will be more effective in changing attitude:
 - a. a large group in-service workshop followed by the distri-

- bution of independent learning materials;
- b. the same in-service workshop and independent materials plus individualized follow-up assistance?
2. Which of the above approaches will be more effective in changing behavior?

Main Findings

Attitude change. The Attitude Inventory used in this study was designed, according to its authors (Otto, 1969), to include items which focused on the content area teachers' perceptions of four aspects of including reading techniques in their classes (Otto, p.50): "a.) their personal role in teaching reading in the content areas; b.) the role of the reading specialist at the secondary level; c.) their personal preparation and ability to teach reading; and d.) the actual task of teaching reading skills (e.g., that it is an enjoyable or distasteful task.)".

Initially, both the treatment and non-treatment groups agreed that they bore a personal responsibility for the teaching of reading in their content area classrooms. Both groups improved in this attitude. Neither group saw the role of the reading teacher as either teaching remedial reading students or taking the complete responsibility for the reading program in the school. Again, both groups were even more positive in their attitudes at the end of the study.

At the conclusion of the study, those in the experimental group, unlike the controls, perceived of themselves as being capable of using reading techniques in their content area classes without

formal instruction. They realized that specialized materials were not necessary. The addition of individualized assistance had given them some insight into how to handle written materials in their classrooms and had given them more security about their ability to use content area reading materials.

In addition, teachers in the experimental group saw possibilities for maintaining their satisfaction with teaching their subjects. Teachers in the control group, by contrast, saw the preoccupation with teaching reading skills as dampening their enthusiasms for teaching in their chosen fields.

A comparison of the mean scores, pre- and post, on the Attitude Inventory reflected the more positive attitude of the experimental group after treatment. This difference was limited to the improved attitude of this group in the last two areas mentioned: their perception of their personal preparation and ability to teach reading and their view of the actual task of teaching reading skills.

Behavior change. During the observation period, neither group of teachers changed its methods of presenting textual materials. The major change by the experimental group seemed to involve giving increased assistance to students who had been identified by the researcher as having severe problems with reading. Most of the experimental group were receptive to what the researcher had to offer and were interested in possibilities for the future. If there was a major area of disagreement, it was the possibility of differentiating groupingd according to student ability.

Both the experimental and control groups gave the same reasons

for their failures to follow through with the techniques introduced in the in-service workshop in readability; inadequacy of preparation time and a necessity for retaining technical vocabulary which prevented them from reducing the reading levels of certain materials. Although a lack of funds and a dearth of multi-level materials were not often cited as reasons on the written survey of teachers in the study, personal conversations with several content area teachers involved in the study suggested that these were also important factors.

The availability of time in the summer did not make much difference. Those who wrote new packets under district sponsorship were not required to measure the readability, even though most were written on only one level. Provision for differentiation of groupings and assignments was also minimal.

The material in the packets distributed at the initial in-service workshop was referred to more frequently by the teachers in the experimental group than by those in the control group. The use cited most frequently on the Post Summer Survey was for the computation of readability levels. This was also the most frequent use by controls, though not to as great an extent. Teachers in the experimental group used the packets slightly more in other ways, too. In general, though, the independent materials had not been used extensively by either group.

Suggestions for possible assistance from reading specialists made in response to a question on the aforementioned survey, gave some insight into the content area teachers' perceptions of the roles of

the reading specialists in the school and the possibilities for further behavior changes. Suggestions for further assistance included cooperation between content area teachers and reading personnel in evaluating written materials and in developing curricula on lower levels of readability. Actual requests the following year were for up-dated lists of the names of students reading above and below grade level, information on the readability levels of books by a teacher who had not been in the experimental group, and the evaluation of a portion of a unit developed at a district-sponsored workshop. Teachers were willing and motivated to change their behaviors regarding the preparation, selection, and utilization of written materials with assistance from reading personnel.

Conclusions

This attempt to provide a solution to the problem of the selection and/or adequate reinforcement of reading materials by content area teachers was only partially successful.

While the attitudes of all the teachers involved in the study were improved at its conclusion, there was little change in behavior. This was true despite the fact that the researcher found ample evidence that the need for change did exist.

There could have been several reasons why change did not occur.

The in-service program met several criteria of successful staff development. It was conducted by local staff in the home school. The workshop format made for active participation by those involved. There was compensation for teachers in the form of released time

from classes. However, the content of the seminar was developed unilaterally by the researcher, with some assistance from other reading personnel, and did not come as a direct result of the expressed need of the content area teachers participating. Also, school district policy did not either encourage or mandate the development and/or use of multi-level reading materials at the secondary level. (This policy was to change the following year with the implementation of PL94-142, the "mainstreaming law".)

If the teachers of each content area had been instructed in separate groups, perhaps the reading methods demonstrated could have been more specialized and more helpful. Demonstration lessons by reading personnel in the content area classroom might also have resulted in a greater change of behavior.

In-service programming does have an important place in the continuing education of the classroom teacher. If, however, it is to change attitude and behavior, it cannot occur in isolation but must evolve from and become part of the total school picture. Where behavior change is involved especially, there must be continued reinforcement and adequate assistance available over a prolonged period of time. And, perhaps most important, the individual teacher must be personally convinced that the changes which are to be made are really worthy of his or her efforts.

Implications

The findings in this study have implications at three levels in the school district studied: the content area teachers in the study, the junior high school administrators involved, and the school

district administrators.

The content area teachers.

1. Reading materials used either in the classroom or as recommended references should be evaluated for readability level, concept and vocabulary loads, and format. The curriculum should then be developed in such a way as to provide for the adequate introduction and/or reinforcement of these materials.
2. Some evaluation should be made of the individual student's ability to cope with reading materials. This could include a comparison of his or her standardized test scores with the readability levels of the materials and the use of a cloze exercise or short test based on the actual materials to be assigned, or the oral reading by the student of a representative passage.
3. Reading materials should be prepared and/or selected on several levels of difficulty to provide for students at both extremes of reading ability.
4. Activities and/or assignments based on the reading materials of a course should be on several levels of difficulty, also to provide for students at both extremes of reading ability.
5. The content area teacher should request that the administration provide the services of a reading specialist to assist with any of the above operations.

The junior high school administrators.

1. At least one reading specialist in the school should be given roster time to attend each of the three grade level meetings.

preferably at the level at which he or she is teaching, to act as a consultant when educational problems of students are discussed.

2. Reading specialists should be given roster time for consulting with individual content area teachers regarding the problems of individual students, the preparation and selection of written materials, and/or the reinforcement of existing materials.
3. Reading specialists should be available to advise horizontal, or subject area teams, on the purchase or preparation of curriculum materials.
4. Reading specialists should be encouraged to attend textbook exhibits for the purpose of searching out content area materials at the various levels of readability.

The school district administrators.

1. A reading specialist or consultant should be involved in all curriculum development workshops for the purpose of evaluating the materials being developed.
2. Curriculum materials developed as part of district workshops should be written on at least two levels with related assignments and activities geared to as broad a range of reading abilities as possible.
3. The school district should re-evaluate its entire curriculum and instructional program in light of the present and projected range of reading and overall ability levels represented in the student population.

4. The school district should consider the appointment of a district reading supervisor, or coordinator, part of whose duties would be to coordinate the efforts of district reading specialists to advise content area teachers on all levels and participate in the presentation of district-sponsored in-service, or staff development, programs in the use of reading techniques for all classroom teachers who feel the need.

The above implications are based on the results of the study of the structure of a particular junior high school and school district. However, most of the general recommendations made could and should apply to the content area reading situation in any school system.

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APPENDIX

Materials Used in the Readability Workshop

The researcher developed a master packet entitled "Books for Every Child" and four related activity packets entitled "Revising Materials", "Cloze Procedure", Differentiating Assignments and Groupings" (including a mathematics supplement), and "Frameworks for Teaching and Learning" (also including a mathematics supplement).

The objectives of the master packet were: to teach the use of the Fry and SMOG readability measures; to explain the interpretation of standardized test scores in reading in relationship to classroom performance, emphasizing the Metropolitan Achievement Tests used in the district under study; and to give teachers the opportunity of doing actual readability measures on textual materials used in their own classes and comparing them with the reading levels of their students.

The four activity packets were designed to identify four avenues by which content area teachers could attack the problem of either adjusting the textual materials to the reading levels of the students or assisting otherwise in the mastery of difficult reading materials.

Format of the Readability Workshop*

The workshop was divided into two parts: a large group session during which faculty members were all taught the use of the Fry readability measure, so that they were immediately able to use it on their own materials, and three smaller group sessions during each of which one of the activity packets (excluding "Cloze Procedure") was introduced.

* The workshop has since been expanded and given at the school district teachers' center.

At the completion of the first section of the workshop, teachers had the figures which enabled them to compute the percentages of students in their classes able to read, at an instructional level, the textual materials being used. Where these percentages were low, there was added motivation to participate in the second part of the workshop.

Each of the small group sessions began with a "hands on" activity.

In the session on revising materials, participants were given a paragraph of 66 words which contained only two sentences. They were asked to break down the paragraph into as many sentences as possible, based on the number of thoughts or facts involved. A discussion of the part sentence length and complexity play in readability followed.

The introductory activity for the session on differentiating assignments and groupings was to decide whether certain statements based on a given prose passage were on the literal, interpretive, or applied level. This was followed by a discussion of the difficulty involved in deriving each type of answer and the suitability of various types of assignments and groupings, based on the reading levels of the students for whom they were intended.

For the discussion of frameworks for teaching and learning, participants were given a prose passage which they had to analyze for vocabulary load, concept load, and format, in addition to readability level. The purpose of this activity was to demonstrate the various factors which contribute to the difficulty of a piece of material and suggest instructional frameworks for dealing with them.

One of 4 charts devised by the researcher using all 3 proficiency levels in reading. Extrapolation was based on students' stanine ranks.

Figure 2: READING LEVELS BASED ON METROPOLITAN SCORES
GRADE 8 (n=236)

